

Serial No.: 10/713,310

Examiner: D. Paries

Title: METHOD, MEMORY MEDIA AND APPARATUS FOR DETECTION OF GRID DISCONNECT

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### **REMARKS/ARGUMENTS**

Reconsideration is requested in view of the following remarks. Claims 3-5, 8-10 and 13-15 have been editorially revised as suggested by the Examiner. Claims 1, 6 and 11 have been editorially revised without adding new subject matter. Support for the revisions to claim 1, 6 and 11 can be found in Figures 4 and 5, and also in paragraphs 29, 30 and 31 of the specification. Claims 1-15 remain under consideration in the present application.

### **Supplemental Information Disclosure Statement (IDS)**

The supplemental IDS submitted in this case does not appear to have been given consideration by the Examiner. Applicants appreciate receiving confirmation that the references cited in the supplemental IDS were given consideration by the Examiner.

### **Claim Rejections – 35 USC §112**

Claims 3, 4, 5, 8, 9, 10, 13, 14 and 15 are rejected under 35 U.S.C. §112, second paragraph since the phrase "frequency/frequencies of a current/previous zero-crossing" should instead read -- frequency/frequencies at a current/previous zero-crossing--.

Claims 3, 4, 5, 8, 9, 10, 13, 14 and 15 have been editorially revised to now recite --frequency/frequencies at a current/previous zero-crossing--. This rejection is therefore overcome.

### **Claim Rejections – 35 USC §102**

Claims 1, 6, 11 and 16 are rejected under 35 U.S.C. §102(e) as anticipated by Wall (US 2004/0178641). Applicants respectfully traverse this rejection.

Claim 1 is directed to a method for preventing islanding in a power system that includes a power grid having a feeder connected in circuit with a distributed generator and at least one load. The method claims determining a phase shift of a voltage based upon multiple measurements over multiple periods of time at an output of said distributed generator.

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The rejection asserts that Wall teaches comparing a determined phase shift to a threshold phase shift ( $\pi/2$ ) and if the phase shift is greater than the threshold, then issuing a command for a disconnect of the generator ([0128]). The determined phase shift disclosed by Wall is a snapshot determined at a single point in time. An absolute value of a phase shift between a fast PLL and a slow PLL is compared with ( $\pi/2$ ); and if the absolute value exceeds ( $\pi/2$ ), a generator system will be commanded to stop energizing the POC....([0128]). Figures 9A and 9B clearly show that the monitored voltage is transmitted both to the fast and slow PLL in parallel. Thus, the phase shift between the fast and slow PLL is determined at a single point in time (i.e., a snapshot).

In contradistinction, the phase shift of claim 1 is based on multiple measurements over multiple periods time. Nowhere does Wall teach or suggest determining a phase shift of a voltage based on multiple measurements over multiple periods of time.

Claims 6 and 11 correspond with claim 1 that claims a phase shift based on multiple measurements over multiple periods of time.

For at least these reasons, claims 1, 6 and 11 patentable over Wall. Claim 16 was previously canceled, thus rendering this rejection now moot.

#### **Claim Rejections – 35 USC §103**

Claims 2, 3, 7, 8, 12 and 13 are rejected under 35 U.S.C. §103(a) as unpatentable over Wall in view of Dautriche (US 6,304,113). Applicants respectfully traverse this rejection for the same reasons discussed above regarding the rejection of claims 1, 6 and 11, since claims 2 and 3 depend ultimately from claim 1 that is allowable, claims 7 and 8 depend ultimately from claim 6 that is allowable and claims 12 and 13 depend ultimately from claim 11 that is allowable.

Further, the zero-crossing techniques disclosed by Dautriche are directed to clock synchronization that bears no resemblance to phase shift determination as required by the claimed invention. Therefore, no motivation exists to combine the teachings of Dautriche with the teachings of Wall.

The zero-crossing techniques disclosed by Dautriche are employed to control a multiplexer to select a particular clock signal so that zero crossing times of digital signals

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coincide with one another. The rejection incorrectly states that Dautriche teaches determining a phase shift of an analog signal to determine zero crossing times. Dautriche in fact teaches determining a phase shift between different analog signals. In contradistinction, the claimed invention requires determining a phase shift of a voltage based upon multiple measurements over multiple periods of time. An example of the claimed phase shift is shown for one embodiment in Figure 2. Thus, while Dautriche discloses determining a phase shift between different analog signals, the claimed invention requires determining a phase shift associated with a single analog signal (voltage based upon multiple measurements over multiple periods of time). Dautriche neither teaches nor suggests phase shift determination of a voltage based upon multiple measurements over multiple periods of time as required by claims 1, 6 and 11. Thus, even if the invention of Dautriche were to be combined with the invention of Wall, the combination would not teach or suggest phase shift determination of a voltage based upon multiple measurements over time.

For at least these reasons, claims 2 and 3 are patentable over the cited art, alone or in combination, since they depend ultimately from claim 1 that is allowable. Claims 7 and 8 are patentable since they depend ultimately from claim 6 that is allowable. Claims 12 and 13 are patentable since they depend ultimately from claim 11 that is allowable. Applicants do not concede the correctness of the rejection.

#### Claim Objections

Claims 4, 5, 9, 10, 14 and 15 are objected to as being dependent upon a rejected base claim. Applicants respectfully traverse this objection. Claims 4 and 5 are patentable since they depend ultimately from claim 1 that is allowable. Claims 9 and 10 are patentable since they depend ultimately from claim 6 that is allowable. Claims 14 and 15 are patentable since they depend ultimately from claim 11 that is allowable.

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Favorable reconsideration in the form of a Notice of Allowance is requested. If the Examiner believes a telephone conference would advance the prosecution of this application, the Examiner is invited to telephone the undersigned at (507) 351-4450.

006147

PATENT TRADEMARK OFFICE

Respectfully submitted,

Dated: 12-14-2006

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